

**REMARKS*****Information Disclosure Statement***

Applicants thank the Examiner for consideration of the Information Disclosure Statements filed December 14, 2005 and December 23, 2005, and return of the initialed Forms PTO-1449.

***Summary of the Amendment***

Upon entry of the foregoing amendment, claims 1 and 4-13 have been amended, whereby claims 1 and 4-13 currently remain pending. Applicants have amended claims 1 and 4-13 to remove "step" language and to clarify the claims in conformance with idiomatic English and U.S. Practice. Support for the amendment can be found in the originally filed specification and claims. No new matter has been added.

***Summary of Office Action***

In the instant Office Action, claims 1, 4-6 and 9-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,682,684 B1 ("JAMALABAD"). Claims 1, 4-6 and 9-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2002-115004 A ("HIGASHI"). Claims 7, 8 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over either JAMALABAD or HIGASHI, and further in view of DE 19953000 ("EXNER"). Lastly, claims 1 and 4-13 are rejected under the judicially created doctrine of Obviousness-type double patenting as being unpatentable over claims 2-15 of U.S. Pat. No. 6,657,155 B2 ("ABE").

**Response**

By the present amendment and remarks, Applicants submit that it is clear that the rejections should be withdrawn, and respectfully request reconsideration of the outstanding Office Action and allowance of the present application.

Specific arguments in response to each of the rejections recited in the Office action are set forth below.

**1. The rejection of claims 1, 4-6 and 9-12 under 35 U.S.C. § 103(a) as being unpatentable over JAMALABAD.**

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Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 1, 4-6 and 9-12 as being unpatentable over JAMALABAD in view of the following remarks.

Applicants respectfully submit that a *prima facie* case of obviousness is not established by JAMALABAD for at least the following reasons. A *prima facie* case of obviousness requires a) the motivation to combine the separate reference teachings, b) the presence of all claimed elements, and c) a reasonable expectation of success. The Office Action fails to establish any of these requirements.

First, there is no specific motivation to arrive at the claimed invention. The Office action admits that LAMALABAD does not explicitly teach at least repeating removing an excess portion, or forming a concave portion on a lower part of a block or a declined upper surface of a concave portion. However, nothing in

LAMALABAD would direct one of ordinary skill in the art to repeat forming a powder layer and irradiating the powder layer, or form a concave portion on a lower part of a block or a declined upper surface of a concave portion. Therefore, Applicants respectfully submit that the motivation set forth in the Office Action does not correct the deficiencies of LAMALABAD. The motivation set forth in the Office Action is clearly misplaced and cannot be gleaned from either LAMALABAD or one of ordinary skill in the art. Mere statements that it would have been obvious to one of ordinary skill in the art without pointing to support in the cited document is not sufficient to satisfy the *prima facie* case of obviousness.

Second, even if LAMALABAD were to direct one of ordinary skill in the art to repeat forming a powder layer and irradiating the powder layer, other aspects of the present invention would not necessarily be present. For example, Applicants respectfully note that the claim 1 requires at least “the sides of the sintered block including a concave portion formed on a lower part of the sintered block.” Moreover, claim 9 requires at least “a concave portion wherein an upper surface of the concave portion is declined from the outside toward the inside.” Therefore, Applicants respectfully submit that the Office bears the burden of showing the presence of all of these claimed elements, which it has not done.

Finally, despite the assertions in the Office Action, there would have been no expectation of success of achieving the specific recitations of the present claims. There is no reason to believe that Applicants' particularly claimed three dimensional object would have resulted. In this regard, Applicants note that the

presently claimed invention provides unexpected results such as the prevention of the excess sintered portion, and shortened removing process time as noted in the specification at page 9, lines 10-20. Therefore, Applicants respectfully submit that such unexpected results would not have been obvious in view of the disclosure of JAMALABAD.

In view of at least these points, Applicants respectfully submit that the claims are not obvious over LAMALABAD, and it is respectfully requested that the 35 U.S.C. § 103 rejection of claims 1, 4-6 and 9-12 be withdrawal.

**2. The rejection of claims 1, 4-6 and 9-12 under 35 U.S.C. § 103(a) as being unpatentable over HIGASHI.**

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Applicants respectfully request withdrawal of the 35 U.S.C. § 103(a) rejection of claims 1, 4-6 and 9-12 as being unpatentable over HIGASHI in view of the following remarks.

As noted above, a *prima facie* case of obviousness is not established by HIGASHI for at least the following reasons. A *prima facie* case of obviousness requires a) the motivation to combine the separate reference teachings, b) the presence of all claimed elements, and c) a reasonable expectation of success. The Office Action fails to establish any of these requirements.

First, there is no specific motivation to arrive at the claimed invention. The Office action admits that HIGASHI does not explicitly teach at least repeating the step of removing an excess portion, or forming a concave portion on a lower part

of a block or a declined upper surface of a concave portion. However, nothing in HIGASHI would direct one of ordinary skill in the art to repeat forming a powder layer and irradiating the powder layer, or forming a concave portion on a lower part of a block or a declined upper surface of a concave portion. Therefore, Applicants respectfully submit that the motivation set forth in the Office Action does not correct the deficiencies of HIGASHI. The motivation set forth in the Office Action is clearly misplaced and cannot be gleaned from either HIGASHI or one of ordinary skill in the art. Mere statements that it would have been obvious to one of ordinary skill in the art without pointing to support in the prior art is not sufficient to satisfy the *prima facie* case of obviousness.

Second, even if HIGASHI were to direct one of ordinary skill in the art to repeat forming a powder layer and irradiating the powder layer, other aspects of the present invention would not necessarily be present. For example, Applicants respectfully note that the claim 1 requires at least “the sides of the sintered block including a concave portion formed on a lower part of the sintered block.” Moreover, claim 9 requires at least “a concave portion wherein an upper surface of the concave portion is declined from the outside toward the inside.” Therefore, Applicants respectfully submit that the Office bears the burden of showing the presence of all of these claimed elements, which it has not done.

Finally, despite the assertions in the Office Action, there would have been no expectation of success of achieving the specific recitations of the present claims. There is no reason to believe that Applicants’ particularly claimed three

dimensional object would have resulted. In this regard, Applicants note that the presently claimed invention provides unexpected results such as the prevention of the excess sintered portion, and shortened removing process time as noted in the specification at page 9, lines 10-20. Therefore, Applicants respectfully submit that such unexpected results would not have been obvious in view of the disclosure of HIGASHI.

In view of at least these points, Applicants respectfully submit that the claims are not obvious over HIGASHI, and it is respectfully requested that the 35 U.S.C. § 103 rejection of claims 1, 4-6 and 9-12 be withdrawal.

**3. The rejection of claims 7, 8 and 13 under 35 U.S.C. § 103(a) as being unpatentable over either JAMALABAD or HIGASHI, and further in view of EXNER.**

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Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a) of claims 7, 8 and 13 as being unpatentable over JAMALABAD or HIGASHI, and further in view of EXNER, in view of the following remarks.

In addition to the arguments regarding JAMALABAD or HIGASHI as noted above, Applicants respectfully submit that the combination of EXNER with either JAMALABAD or HIGASHI is improper.

The Office Action states that EXNER is combined with either JAMALABAD or HIGASHI because EXNER teach a process of making a three-dimensional object including irradiating an optical beam along an outline and using a mask,

and therefore such would have been obvious to one of ordinary skill in the art at the time of the invention in order to produce a desired three dimensional object.

However, Applicants note numerous differences between Applicants' claims and the combination of LAMALABAD or HIGASHI with EXNER. For example, EXNER does not appear to disclose at least the feature wherein "the mask having an aperture that is approximately equal to the outline of the sintered block," as in claims 7 and 13. Further, EXNER does not appear to teach at least the feature of "irradiating an optical beam along an outline of predetermined portion to be sintered," as in claim 8. Therefore, EXNER does not cure the deficiencies of LAMALABAD or HIGASHI.

In contrast with the present claims, Applicants note that EXNER disclose a fixed, moving, or variable-contour mask, and irradiation of the optical beam in a zig-zag pattern. Therefore, Applicants respectfully submit that EXNER actually teaches away from the present claims, and cannot be properly combined with either LAMALABAD or HIGASHI to arrive at the claimed recitations of claims 7, 8 and 13. Thus, EXNER does not correct the deficiencies of LAMALABAD or HIGASHI, and Applicants respectfully request withdrawal of the 35 U.S.C. § 103 rejection of claims 7, 8 and 13.

**4. The rejection of claim 1 and 4-13 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-15 of ABE.**

Applicants respectfully request withdrawal of the obviousness-type double patenting rejection of claims 1 and 4-13 in view of the following remarks.

As noted above, a *prima facie* case of obviousness is not established by HIGASHI for at least the following reasons. A *prima facie* case of obviousness requires a) the motivation to combine the separate reference teachings, b) the presence of all claimed elements, and c) a reasonable expectation of success. The Office Action fails to establish any of these requirements.

Applicants respectfully submit that ABE does not claim at least the recitations of an “organic material” as in claims 1, 8 and 9, or the recitation wherein “the sides of the sintered block including a concave portion,” as in claims 1 and 9. Moreover, the Office Action fails to provide motivation as to why the claimed recitations not claimed in ABE would have been obvious. Therefore, Applicants respectfully request withdrawal of the obviousness-type double patenting rejection of claims 1 and 4-13.

***Application is Allowable***

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully request the Examiner to indicate allowance of each and every pending claim of the present invention.



***Authorization to Charge Deposit Account***

If for any reason the necessary fees are not associated with this file, the undersigned authorizes the charging of any necessary fees not explicitly identified, to Deposit Account No. 19-0089 in order to maintain pendency of this application.

**CONCLUSION**

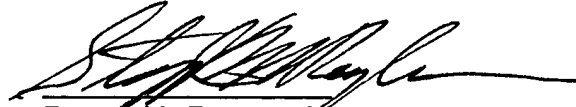
In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipates or renders obvious the Applicants' invention, as recited in each of claims 1 and 4-13. In addition, the applied documents of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Should there be any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,  
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